



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,995	02/12/2004	David Malcolm Camm	SMARB11.001AUS	3328
20995 7590 01/27/2009 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER				
WON, BUMSUK				
ART UNIT		PAPER NUMBER		
2889				
NOTIFICATION DATE		DELIVERY MODE		
01/27/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

### Office Action Summary

**Application No.**

10/777,995

**Applicant(s)**

CMM ET AL.

**Examiner**

BUMSUK WON

**Art Unit**

2889

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 55, 58 and 60-131 is/are pending in the application.  
4a) Of the above claim(s) 76-114 and 117-131 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 55, 58, 60-62, 66-75, 115 and 116 is/are rejected.  
7) ☒ Claim(s) 63-65 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/25/2008  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

The amendment filed on 10/8/2008 has been entered.

***Response to Arguments***

Applicant's arguments filed on 10/8/2008 have been fully considered but they are not persuasive. Regarding the amended independent claims 55, 115 and 116, the applicant argues that Grossman (US 4,963,783) and Nodwell (US 4,027,185) do not disclose the claim limitations. The applicant argues with three reasoning. First, the applicant argues that Grossman discloses a vapor lamp while Nodwell does not disclose a vapor lamp. Second, the applicant argues that Grossman does not disclose a flow generator with an electrical conductor. Third, the applicant argues that the principle of cooling flow of liquid of Grossman and Nodwell have different principle of operation.

Regarding the first argument, the examiner respectfully agrees. However, the examiner maintains the rejection because both Grossman and Nodwell are analogous arts of cooling the respective lamps using flow of liquid. Regarding the second argument, the examiner respectfully agrees. However, as noted in the previous office action on page 8, it is Nodwell, not Grossman which discloses flow generator including an electrical conductor. Regarding the third argument, the examiner respectfully disagrees. Both Grossman and Nodwell discloses using of cooling flow of liquid in order to control the temperature of the respective lamps. It may be true, as noted in the remarks on pages 19 and 20, that Grossman has cooling flow of liquid on the outside of the lamp while Nodwell has cooling flow of liquid in the inside of the lamp; however, the fundamental principle of cooling is the same in the prior arts - to reduce temperature of the lamp using cooling flow of liquid. Accordingly, the examiner maintains the rejection of amended independent claims 55, 115 and 116.

Further, the amended independent claims 55, 115 and 116 recites an apparatus or method of producing the apparatus comprising a flow generator which generates flow of liquid, and electrodes

which generates electrical arc, and an electrical connection to one of the electrode via the flow generator. Because the electrical connection to one of the electrode is configured such that the flow generator is in between a power source and the one of the electrode, it seems obvious to the examiner that the flow generator is electrically insulated so that the power source, electrode and electrical connections are not short circuited to other electrical components such as the other electrode.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 55, 58, 60, 61, 62, 66, 69-71, 75, 115 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman (US 4,963,783) in view of Nodwell (US 4,027,185).

Regarding claim 55, Grossman discloses an apparatus (figure 1) comprising: an electrically insulated flow generator (column 4, lines 24-29 and 52-56) configured to generate a flow of liquid along an inside surface of an envelope (column 4, lines 52-56, the examiner interprets 3 being the envelope, and 2 being an inner envelope), wherein the electrical insulation surrounds the first electrode – cathode and electrical connection thereto (figure 1 shows the insulations 2 and 3 surrounds the electrode and the electrical connection 5); and first and second electrodes (6's) configured to generate an electrical arc within the envelope to produce electromagnetic radiation (this apparatus is a lamp, therefore the electrodes create electromagnetic radiation - light).

Grossman does not specifically disclose the flow generator having an electrical conductor, and that the electrical connection comprises the electrical conductor.

Nodwell discloses an apparatus having a flow generator with a conductor (column 4, lines 16-64), and that the electrical connection (25) comprises flow generator (27), for the purpose of efficiently generating the flow of liquid.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a flow generator with a conductor, and that the electrical connection comprises flow generator as disclosed by Nodwell in the apparatus disclosed by Grossman, for the purpose of efficiently generating the flow of liquid.

Regarding claim 58, Grossman discloses the electrical insulation surrounds the first electrode – cathode and electrical connection thereto (figure 1 shows the insulations 2 and 3 surrounds the electrode and the electrical connection 5).

Regarding claim 60, Grossman discloses the electrical insulation (3) surround the flow generator comprises the envelope (3).

Regarding claim 61, Grossman discloses the electrical insulation (3) surrounding the flow generator comprises an insulative housing (3).

Regarding claim 62, Grossman discloses the insulative housing (3) surrounds at least a portion of the envelope (3).

Regarding claim 66, Grossman discloses the envelope comprises a transparent cylindrical tube (figure 1, column 4, lines 24-39).

Regarding claims 69 and 70, Grossman in view of Nodwell discloses all the claim limitation except for the tube being a precision bore cylindrical tube with a dimensional tolerance lower than  $5 \times 10^{-2}$  mm.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the tube with a precision bore cylindrical tube with a dimensional tolerance lower than

Art Unit: 2889

$5 \times 10^{-2}$  mm in the apparatus disclosed by Grossman in view of Nodwell, for the purpose of reducing unevenness of the inside diameter of the tube to enhance sealing of the housing and envelope.

Regarding claim 71, Grossman discloses the tube comprises quartz (figure 1, column 4, lines 24-39).

Regarding claim 75, Grossman discloses all the claim limitation except for the insulative housing comprising at least one of a plastic or a ceramic.

Nodwell discloses an apparatus having an insulative housing comprises ceramic (column 4, lines 5-15), for the purpose of reducing manufacturing cost.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an insulative housing comprises ceramic as disclosed by Nodwell in the apparatus disclosed by Grossman, for the purpose of reducing manufacturing cost.

Regarding claim 115, Grossman discloses an apparatus (figure 1) comprising: electrically insulated means (column 4, lines 24-29 and 52-56) for generating a flow of liquid along an inside surface of an envelope (3), wherein the electrical insulation surrounds the first electrode – cathode and electrical connection thereto (figure 1 shows the insulations 2 and 3 surrounds the electrode and the electrical connection 5); and means for generating an electrical arc within the envelope to produce the electromagnetic radiation (6's denotes electrodes, and this apparatus is a discharge lamp, therefore the electrodes create electromagnetic radiation).

Grossman does not specifically disclose the means for generating flow of liquid having an electrical conductor, and that the electrical connection comprises the electrical conductor.

Nodwell discloses an apparatus having a means for generating flow with a conductor (column 4, lines 16-64), and that the electrical connection (25) comprises the means for generating flow (27), for the purpose of efficiently generating the flow of liquid.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a means for generating flow with a conductor, and that the electrical connection comprises the means for generating flow as disclosed by Nodwell in the apparatus disclosed by Grossman, for the purpose of efficiently generating the flow of liquid.

Regarding claim 116, Grossman discloses a method of producing electromagnetic radiation (figure 1), the method comprising: generating a flow of liquid along an inside surface of an envelope (3), wherein the electrical insulation surrounds the first electrode – cathode and electrical connection thereto (figure 1 shows the insulations 2 and 3 surrounds the electrode and the electrical connection 5); using an electrically insulated flow generator (column 4, lines 24-29 and 52-56); and generating an electrical arc between first and second electrodes to produce the electromagnetic radiation (6's denotes electrodes, and this apparatus is a discharge lamp, therefore the electrodes create electromagnetic radiation).

Grossman does not specifically disclose the flow generator having an electrical conductor, and that the electrical connection comprises the electrical conductor.

Nodwell discloses a method of producing an apparatus having a flow generator with a conductor (column 4, lines 16-64), and that the electrical connection (25) comprises flow generator (27), for the purpose of efficiently generating the flow of liquid.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a flow generator with a conductor, and that the electrical connection comprises flow generator as disclosed by Nodwell in the method disclosed by Grossman, for the purpose of efficiently generating the flow of liquid.

Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Nodwell, in further view of Schenck (US 5,753,106).

Regarding claims 67 and 68, Grossman in view of Nodwell discloses all the claim limitation except for the thickness of the tube.

Schenck discloses an apparatus (figure 1) having for radiation having cylindrical tube (2) made of quartz having a wall thickness of 5 to 100 nm (column 13, lines 37-64), for the purpose of preventing from overheating (column 13, lines 37-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a thickness of a tube being 5 to 100 nm disclosed by Schenck in the apparatus disclosed by Grossman in view of Nodwell, for the purpose of preventing from overheating.

Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Nodwell, in further view of Parfeniuk (US 6,621,199).

Regarding claim 72, Grossman in view of Nodwell discloses all the claim limitation except for the quartz tube being a pure quartz tube.

Parfenik discloses an apparatus (figures 1) having a tube comprising pure quartz (column 4, lines 42-58), for the purpose of enhancing light emissivity.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have pure quartz tube as disclosed by Parkenik in the apparatus disclosed by Grossman, for the purpose of enhancing light emissivity.

Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Nodwell, in further view of Ashely (5,137,659).

Regarding claim 73, Grossman discloses all the claim limitation except for the tube is cerium doped.

Ashely discloses an apparatus in an analogous art using cerium in an housing for radiation emitting device (col 8, lines 16-21), for the purpose of enhancing transparency (col 8, lines 16-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have cerium disclosed by Ashely in the apparatus disclosed by Grossman, for the purpose of enhancing transparency.



Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Nodwell, in further view of Kimble (6,465,799).

Regarding claim 74, Grossman discloses all the claim limitation except for the tube is sapphire.

Kimble discloses an apparatus in an analogous art using sapphire in an housing for radiation emitting device (col 6, lines 11-46), for the purpose of enhancing transparency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have sapphire disclosed by Kimble in the apparatus disclosed by Grossman, for the purpose of enhancing transparency.

#### ***Allowable Subject Matter***

Claims 63-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 63, the prior art of record does not teach or suggest the invention of an apparatus for producing electromagnetic radiation having an electrical insulation comprises gas in a space between an insulative housing and a portion of an envelope, along with other claimed limitations. Claims 64 and 65 are objected to due to claim dependency.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BUMSUK WON whose telephone number is (571)272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. W./  
Examiner, Art Unit 2889

/Toan Ton/  
Supervisory Patent Examiner  
Art Unit 2889